

REMARKS

The present application was filed on October 11, 2000 with claims 1-30. Claims 1, 10, 11, 20, 21 and 30 are the independent claims and have been amended. Claims 1-30 remain pending.

In the outstanding Office Action dated November 1, 2005, the Examiner: (i) rejected claims 1-30 under 35 U.S.C. §101; and (ii) rejected claims 1-30 under 35 U.S.C. §112, first paragraph.

With regard to the rejections of claims 1-30 under 35 U.S.C. §101 and §112, first paragraph, Applicants have amended independent claims 1, 10, 11, 20, 21 and 30 so that they recite a practical application in the technological arts in an effort to expedite the application through to issuance. Specifically, independent claims 1, 10, 11, 20, 21 and 30 recite techniques for optimizing data mining in a computer, the data mining being performed on the computer to detect one or more outliers in a high dimensional data set of personal attributes. Support for the amendments can be found in the specification on page 12, lines 19-26, and page 13, lines 3-27. Applicants believe that claims 1-30 contain statutory subject matter under §101 and therefore request withdrawal of the rejections under §101 and §112, first paragraph.

The Examiner contends that Applicants' "data set" is an abstract idea. While the Examiner is correct in that abstract ideas alone are not eligible for patenting, methods and products employing abstract ideas to perform a real-world function may well be. It is for the discovery or invention of some practical method or means of producing a beneficial result or effect, that a patent is granted.

The focus of the inquiry is whether the claim, considered as a whole, constitutes "a practical application of an abstract idea." *State Street Bank & Trust Co. v. Signature Financial Group, Inc.*, 47 USPQ2d 1596 at 1600. Further, in *Ex parte Lundgren*, Appeal No. 2003-2088, the Board held that there is currently no judicially recognized separate "technological arts" test to determine patent eligible subject matter under §101. Thus, the question of whether a claim encompasses statutory subject matter should not focus on which category of subject matter a claim is directed to, "but rather on the essential characteristics of the subject matter, in particular its practical utility." *State Street*, 149 F.3d at 1375, 47 USPQ2d at 1602. Accordingly, an "abstract idea" when practically applied to a useful end is eligible for a patent. *State Street*, 149 F.3d at 1374, 47 USPQ2d at 1601.

In *State Street*, the Federal Circuit examined some of its prior §101 cases, observing that the claimed inventions in those cases were each for a “practical application of an abstract idea” because the elements of the invention operated to produce a “useful, concrete and tangible result.” *State Street*, 149 F.3d at 1373-74, 47 USPQ2d at 1601-02. In determining whether the claim is for a “practical application,” the focus is not on whether the steps taken to achieve a particular result are useful, tangible and concrete, but rather that the final result is “useful, tangible and concrete.”

The final result achieved by the claimed invention provides a practical application that produces a useful, tangible and concrete result. The utility of the invention is specific, substantial and credible. The claims are tangible in that they are tied to a particular machine or apparatus. Finally, the invention is concrete in that the result can be assured and is substantially repeatable. At a minimum, the invention, as recited in the subject claims, produces a useful, concrete and tangible result in the form of an optimization of data mining in a computer to detect one or more outliers in a high dimensional data set of personal attributes.

A claim limited to a machine or manufacture, which has a practical application, is statutory. A claim to a specific machine or manufacture will have a practical application, and is not a disembodied mathematical concept which may be characterized as an “abstract idea,” but rather a specific machine to produce a useful, concrete and tangible result.

Functional descriptive material consists of data structures and computer programs which impart functionality when employed as a computer component. When functional descriptive material is recorded on some computer-readable medium it become structurally and functionally interrelated to the medium and will be statutory in most cases since use of technology permits the function of descriptive material to be realized. For example, a claim to data structure stored on a computer readable medium that increases computer efficiency was held statutory, *In re Lowry*, 32 F.3d 1579, 1583-84, 32 USPQ2d 1031, 1035 (Fed. Cir. 1994). Further, a claim to computer having a specific data structure stored in memory was held statutory. *In re Warmerdam*, 33 F.3d 1354 at 1360-61, 31 USPQ2d 1754 at 1759.

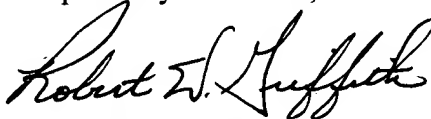
A claimed computer-readable medium encoded with a data structure defines structural and functional interrelationships between the data structure and the computer software and hardware

components which permit the data structure's functionality to be realized, and is thus statutory. Only when the claimed invention taken as a whole is directed to a mere program listing, i.e., to only its description or expression, is it descriptive material per se and hence nonstatutory. When a computer program is claimed in a process where the computer is executing the computer program's instructions, the claim should be treated as a process claim. When a computer program is recited in conjunction with a physical structure, such as a computer memory, it should be treated as a product claim.

The present invention may be implemented in accordance with computer-based methods (e.g., independent claims 1 and 10), computer- and computer program-based apparatus (e.g., independent claims 11 and 20), and articles of manufacture comprising a program storage medium embodying one or more instructions executable by the computer to perform method steps by the computer (e.g., independent claims 21 and 30). Thus, since the invention is described as being implemented in one of these forms and data mining in a computer is optimized to detect one or more outliers of the data set, as described above, Applicants believe that claims 1-30 contain statutory subject matter under §101 and therefore request withdrawal of the rejections under §101 and §112, first paragraph.

In view of the above, Applicants believe that claims 1-30 are in condition for allowance, and respectfully request withdrawal of the §101 and §112 rejections.

Respectfully submitted,



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